

S/N 10/004,567

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AMENDMENT(S) TO THE SPECIFICATION:

Kindly replace the paragraph starting on page 6, line 5 with the following amended paragraph:

--A fourth aspect of the present invention provides a method of using an N/2-point transform to transform a N-point complex-valued series to an N-point real-valued series. The method includes: mapping the N-point complex-valued series to a first N/2-point complex-valued series using a first mapping function, performing an inverse discrete Fourier transform, e.g., inverse fast Fourier transform on the first N/2-point complex-valued series to obtain a second N/2-point complex-valued series, and mapping real and imaginary components of the second N/2-point complex-valued series to the N-point real-valued series using a second mapping function.

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Kindly replace the paragraph starting on page 14, line 10 with the following amended paragraph:

-- The above mapping provides the values of $X_r(n)$ and $X_i(n)$ for n between 0 and 127 where $X_r(n)$ and $X_i(n)$ are the real and imaginary values for positive frequency bin n and $R(N)=R(0)$ and $I(N)=I(0)$. The values for the negative frequencies are easily obtained from $X_r(n)$ and $X_i(n)$ by taking the complex conjugate of the corresponding positive frequency bin; that is $X(n)=X^*(-n)$. This is true since the input to the FFT was a real valued signal in the time domain and therefore has an even function for the real values and an odd function for the imaginary values in the frequency domain. Since we are only interested in the positive frequency values, the outputs of block 214 are 128 sub-carriers of an oversampled OFDM symbol which is shifted in the frequency domain as show in Fig. 3B so as to be centered at the IF. Fig. 3C shows a representation of the complete frequency domain, with the values at the negative frequencies being the complex conjugate of the values at the corresponding positive frequencies.

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